

REMARKS/ARGUMENTS

The courtesy extended by the Examiner during the interview at the teleconference of January 9, 2007 is acknowledged and appreciated. As a result of that conference and in response to the Office Action of December 19, 2007, please reconsider the claim rejection in view of these arguments/remarks.

Claims 1-16 were rejected under 35 USC 103(a) over Strukel '157 in view of Sorensen et al. et al. '149. The rejection is respectfully traversed.

Independent claim 11 includes the step of abutting an exterior of an incision with the peak formations of the infusion sleeve. In this manner, flowing fluid through a passage (between the needle and the sleeve) will flow across the valley formations as the fluid flows to the distal end of the sleeve. In contrast, the use of a infusion sleeve as in Strukel whose distal end of its infusion sleeve terminates into a straight edge (as opposed to peaks and valleys) would not enable fluid flow across the straight edge even if it were to abut the exterior of an incision. This is because the straight edge would effectively seal off the passage at the distal end as it abuts the exterior of the incision.

Indeed, neither Strukel nor Sorensen et al. discloses an abutting of an incision with peak formations at the distal end of the sleeve in contrast to the recitation of claim 11. The reason is that in both Strukel and Sorensen, both the distal end of the sleeve and the needle tip penetrate the incision to enter the interior of the eye. Such necessitates a larger size incision than would otherwise be the case without inserting the needle. Providing for a smaller size incision is desirable for phacoemulsification as discussed in the present application in paragraphs [0003] – [0005], but is not envisioned by either Strukel or Sorensen et al.

While it may be theoretically possible to abut the distal end of Sorensen et al.'s bifurcated sleeve against an exterior of an incision if the incision were small enough, such is contrary to Sorensen et al.'s teaching. First, Sorensen et al. only envisions inserting both the infusion sleeve and its lens reducing cutting head together through an incision and so its infusion sleeve is inherently too small to abut against the incision envisioned. Second, Sorensen et al. specifically directs at col. 10 lines 46-50 that a distal end of at least one of the bifurcated portions extend beyond the lens reducing cutting head.

Therefore, adopting such a relative arrangement according to the Sorensen et al. teaching, but modifying it so that the Sorensen et al. infusion sleeve abutted the exterior of the incision, would mean that the cutting implement would not penetrate the incision and in effect would be inoperative. A skilled artisan would have neither motivation nor incentive, therefore, to abut a distal end of a Strukel infusion sleeve modified by the bifurcation of Sorensen et al. against an exterior of an incision.

Further, Sorensen et al. gives reasons for the bifurcation at col. 3 lines 30-40 and col. 3 line 56 – col. 4 line 1, which reasons contrast with use of Sorensen et al.'s device for phacoemulsification (col. 2 lines 33-52). The point is that a skilled artisan, upon considering ways to improve "irrigation flow" for phacoemulsification devices such as that of Strukel, would not adopt Sorensen et al.'s device, whose construction is provided as an alternative to phacormulsification.

As concerns independent claims 1, 5 and 11:

Sorensen et al.'s cutting head never protrudes beyond its bifurcated sleeve in Fig. 5c (col. 10 lines 46-50):

"the protruding side 326c is bifurcated or shaped to include multiple axial protrusions, at least one of which extends slightly beyond the distal most end of the lens-reducing head 318 when the lens-reducing head 318 is disposed in its second or "operative" position as shown."

This Sorensen et al. teaching clearly teaches away from projecting a cutting head beyond the distal end of a bifurcated sleeve, which is in contrast with the claim language of claims 1, 5 and 11. Although Strukel's needle extends beyond the distal end of the infusion sleeve, there is no motivation or incentive to change the distal end into peak and valley formations even though Sorensen et al. provides for an infusion sleeve with bifurcations at its distal end.

There are two reasons for this.

First, as mentioned previously, Strukel is directed at phacoemulsification while Sorensen et al. is not. True, they both seek to break up lens material for removal via aspiration, but Sorensen et al. goes out of his way in col. 2 lines 33-52 to identify shortcomings of phacoemulsification to justify why his lens reducing cutting head approach is superior for certain situations. Such would not instill confidence in a skilled artisan to consider modifying Strukel by Sorensen et al.

Second, in the case where the cutting implement is within the confines of the infusion sleeve as in Sorensen et al., it makes sense to arrange the suction apertures (bifurcated openings) in close proximity to the irrigation apertures since the flow is to be drawn into the sleeve to reach the cutting implement. However, the case of phacoemulsification as in Strukel where the needle protrudes beyond the infusion sleeve, it doesn't make sense to arrange the suction apertures in close proximity to the irrigation apertures since doing so effectively short circuits the flow path and thus fails to aspirate cut lens material efficiently. Indeed, Strukel teaches in its penultimate paragraph against having a configuration

where the aspiration port is too close to the suction port as would short circuit the fluid flow (which is how the relationship appears in Fig. 5c of Sorensen et al.):

"In other words, if the infusion port is located too close to the aspiration port, the fluid will naturally follow a path of least resistance and short circuit directly from the infusion port to the aspiration port, which clearly reduces the amount of tissue that can be removed from the eye or at the very least reduces the amount of time it takes to remove the desired amount of tissue from the eye."

According to the Office Action, the rationale for modifying Strukel by Sorensen et al. is to improve irrigation flow. Even if the bifurcation of Sorensen et al. infusion sleeve improves irrigation flow where the cutting implement is within the confines of the infusion sleeve, such would not do so where the implement is projects beyond the distal end of the infusion sleeve as in Strukel. Thus, a skilled artisan would not be motivated to modify Strukel's infusion sleeve by Sorensen et al.'s bifurcated protective sleeve.

In view of the foregoing reasons, withdrawal of the rejection is warranted and requested.

Respectfully submitted,



Robert J. Hess
Hess Patent Law Firm
203 356-0727